

AMENDMENT TO THE CLAIMS

1-10. (Canceled)

11. (Currently amended) An epitaxial growth method comprising:

growing an epitaxial layer on a layered substrate which exhibits bowing so as to reduce said bowing, wherein the layered substrate has at least two layers, wherein at least two of the layers have different thermal coefficients.

12. (Previously presented) The epitaxial growth method of claim 11 further comprising the step of selective etching a portion of the epitaxial layer.

13. (Original) The epitaxial growth method of claim 11 wherein the epitaxial layer comprises a III-V nitrides alloy and the material of the top layer of the layered substrate is selected from the group consisting of sapphire, silicon, silicon carbide, zinc oxide, gallium arsenide, gallium phosphide, indium phosphide, LiGaO_2 , and LiAlO_2 .

14. (Original) The epitaxial growth method of claim 11 wherein the epitaxial layer comprises a III-V nitrides alloy and the substrate is selected from the group consisting of sapphire on silicon, sapphire on a III-V nitrides alloy, sapphire on zinc oxide, and sapphire on silicon carbide.

15. (Previously presented) An epitaxial growth method comprising:

directly heating a substrate by a radiation source without using any heat sink material;

supplying a set of reactant species on one side of the substrate for growing an epitaxial layer on the first side of the substrate at an elevated temperature; and

without cooling down to room temperature, supplying another set of reactant species on the other side of the substrate for growing an epitaxial layer on an opposing side of the substrate.

16. (Original) The epitaxial growth method of claim 15 wherein the epitaxial layer grown on the first side of the substrate and the epitaxial layer grown on the opposing side of the substrate are grown simultaneously.

17. (Original) The epitaxial growth method of claim 15 wherein the substrate is sapphire and the epitaxial layer grown on one side comprises a III-V nitrides alloy, and the layer grown on the opposing side of the substrate is selected from the group consisting of silicon, zinc oxide, silicon carbide, and a III-V nitrides alloy.

18. (Canceled)

19. (Previously presented) An epitaxial growth method comprising:

placing a substrate in a system so that each side of the substrate is not completely covered by any parts or susceptor blocks;

directly heating the substrate by a radiation source without using any heat sink material;

supplying a set of reactant species on one side of the substrate;

supplying another set of reactant species on the other side of the substrate; and

preventing mixing of the two sets of reactant species.

20. (Original) The epitaxial growth method of claim 19 wherein the preventing comprises preventing the mixing of the two sets of reactant species with a physical partition.

21. (Original) The epitaxial growth method of claim 19 wherein the preventing comprises preventing the mixing of the two sets of reactant species with inert gas flows.

22. (Original) The epitaxial growth method of claim 19 wherein both sets of reactant species comprise a nitrogen source and a group-III metal source.

23. (Original) The epitaxial growth method of claim 19 wherein one set of the reactant species comprises a nitrogen source and a group-III metal source and the other set of reactant species comprises a silicon source.

24. (Previously presented) The epitaxial growth method of claim 11 further comprising the step of removing the layered substrate after growing the epitaxial layer.

25. (Previously presented) The epitaxial growth method of claim 24 wherein the step of removing comprises mechanical polishing.

26. (Previously presented) The epitaxial growth method of claim 11 wherein a process of forming said layered substrate includes a heating step, wherein said layered substrate exhibits the bowing after being cooled down from said heating step.

27. (Previously presented) The epitaxial growth method of claim 15, further comprising the step of preventing mixing of the two sets of reactant species.

28-30. (Canceled)